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File: USPT

Jun 19, 2001

US-PAT-NO: 6248529

DOCUMENT-IDENTIFIER: US 6248529 B1

TITLE: Method of chemically assembling nano-scale devices

DATE-ISSUED: June 19, 2001

INVENTOR-INFORMATION:

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NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
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APPL-NO: 09/ 315750 [PALM]

DATE FILED: May 20, 1999

PARENT-CASE:

The present application claims the benefit of U.S. Provisional Patent applications serial Nos. 60/086,163, filed May 20, 1998, and 60/095,096, filed Aug. 3, 1998.

INT-CL: [07] C12 Q 1/68, C12 P 19/34, C12 N 11/00, C12 N 1/12, G01 N 33/543


US-CL-ISSUED: 435/6; 435/6, 435/91.1, 435/91.2, 435/174, 435/183, 435/283.1, 436/418, 436/525, 536/23.1, 536/24.3, 536/24.31, 536/24.32, 536/24.33

US-CL-CURRENT: 435/6; 435/174, 435/183, 435/283.1, 435/91.1, 435/91.2, 436/518, 436/525, 536/23.1, 536/24.3, 536/24.31, 536/24.32, 536/24.33

FIELD OF SEARCH: 435/6, 435/91.1, 435/91.2, 435/174, 435/183, 435/283.1, 435/285.1, 435/285.2, 436/518, 436/525, 536/23.1, 536/24.3, 536/24.31, 536/24.32, 536/24.33

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search SelectedSearch ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>4522932</u>	June 1985	Mitchell, III	
<input type="checkbox"/>	<u>4728591</u>	March 1988	Clark et al.	
<input type="checkbox"/>	<u>4802951</u>	February 1989	Clark et al.	
<input type="checkbox"/>	<u>5242877</u>	September 1993	Dobson et al.	
<input type="checkbox"/>	<u>5258627</u>	November 1993	Turin	
<input type="checkbox"/>	<u>5389401</u>	February 1995	Gordon	
<input type="checkbox"/>	<u>5536858</u>	July 1996	Lalonde et al.	
<input type="checkbox"/>	<u>5561071</u>	October 1996	Hollenberg et al.	
<input type="checkbox"/>	<u>5578248</u>	November 1996	Hattori et al.	
<input type="checkbox"/>	<u>5593839</u>	January 1997	Hubbell et al.	
<input type="checkbox"/>	<u>5632957</u>	May 1997	Heller et al.	
<input type="checkbox"/>	<u>5733729</u>	March 1998	Lipshutz et al.	
<input type="checkbox"/>	<u>5736257</u>	April 1998	Conrad et al.	
<input type="checkbox"/>	<u>6051380</u>	April 2000	Sosnowski et al.	435/6

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
WO 98/53841	December 1998	WO	
WO 99/04440	January 1999	WO	

OTHER PUBLICATIONS

Smith et al., "Quadruplex Structure of Oxytricha Telomeric DNA Oligonucleotides," Nature, 356:164-168 (1992).

ART-UNIT: 166

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ABSTRACT:

The present invention provides nano-scale devices, including electronic circuits, using DNA molecules as a support structure. DNA binding proteins are used to mask regions of the DNA as a material, such as a metal is coated onto the DNA. Included in the invention are DNA based transistors, capacitors, inductors and diodes. The present invention also provides methods of making integrated circuits using DNA molecules as a support structure. Methods are also included for making DNA based transistors, capacitors, inductors and diodes.

32 Claims, 4 Drawing figures